AMENDMENTS TO THE CLAIMS

1. (Original) A process for producing a metal nanoparticle composite film containing metal nanoparticles dispersed in a polyimide resin film, the process comprising the steps of (a) treating the polyimide resin film with an alkali aqueous solution to thereby introduce a carboxyl group, (b) bringing the resin film into contact with a solution containing metal ions, to thereby dope the metal ions in the resin film, and (c) performing thermal reduction treatment in a reducing gas, thereby producing the metal nanoparticle composite film containing the metal nanoparticles dispersed in the polyimide resin film, wherein the volume filling ratio of the metal nanoparticles in the composite film is controlled by regulating the thickness of a nanoparticle dispersed layer formed in the polyimide resin film with the thermal reduction treatment in the reducing gas in said step (c).

2. (Currently amended) A process for producing a metal nanoparticle composite film according to ~~above~~ Claim 1, wherein when the thermal reduction treatment is performed in the reducing gas in the step (c), the thickness of the nanoparticle dispersed layer is regulated by controlling a heat treatment time.

3. (Currently amended) A process for producing a metal nanoparticle composite film according to ~~above~~ Claim 1, further comprising the steps of performing the heat treatment in the reducing gas at temperature not lower than the reduction temperature of the metal ions in the step (c), to thereby form a layer containing the metal nanoparticles dispersed in a polyimide resin, and (d) performing another heat treatment at temperature different from the temperature of the aforesaid heat treatment, to thereby regulate the thickness of the metal-nanoparticle dispersed layer.

4. (Currently amended) A process for producing a metal nanoparticle composite film according to ~~above~~ Claim 3, wherein the heat treatment after the formation of the metal-

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nanoparticle dispersed layer in the step (d) is performed at temperature lower than the temperature at which the metal-nanoparticle dispersed layer has been formed.

5. (Currently amended) A process for producing a metal nanoparticle composite film according to ~~above~~ Claim 3, wherein the heat treatment after the formation of the metal-nanoparticle dispersed layer in the step (d) is performed at temperature higher than the temperature at which the metal-nanoparticle dispersed layer has been formed.

6. (Previously presented) A process for producing a metal nanoparticle composite film according to Claim 3, wherein the heat treatment after the formation of the metal-nanoparticle dispersed layer in the step (d) is performed in an inert gas.

7. (Previously presented) A process for producing a metal nanoparticle composite film according to Claim 1, wherein an aqueous solution of potassium hydroxide or sodium hydroxide is used as the alkali aqueous solution in the step (a).

8. (Currently amended) A process for producing a metal nanoparticle composite film according to ~~any one of above 1 to 7~~ Claim 1, wherein the solution containing the metal ions used in the step (b) contains one or more kinds of metal ions selected from among nickel, cobalt and iron.

9. (Previously presented) A process for producing a metal nanoparticle composite film according to Claim 1, wherein the reducing gas used in the step (c) is a hydrogen gas.

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